IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.	:	10/576,684	Confirmation No. :	4662
First Named Inventor	:	Thomas GREINER-STOEFFELE		
Filed	:	April 20, 2006		
TC/A.U.	:			
Examiner	:			
Docket No.	:	102520.57766US		
Customer No.	:	23911		
US National Stage of	:	PCT/DE2004/002386		
Title	:	Method From the Selection of Biomolecules From Biomolecule Variant Libraries		

AMENDMENT

Mail Stop PCT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Responsive to the Notice to Comply with Requirements mailed March 5, 2007 in the above-identified patent application, kindly amend the application as follows:

Amendments to the Specification begin on page 2 of this paper.

Amendments to the Claims are reflected in the listing of claims which begins on page 3 of this paper. No additional claim fees are due.

Remarks begin on page 6 of this paper.

Amendments to the Specification:

Please replace the original Sequence Listing in the application with the accompanying Substitute Sequence Listing.

Amendments to the Claims:

The following listing of claims replaces all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amendedl) Method for the identification of biomolecules in variant libraries of biomolecules comprising the steps:

a) Production of a variant library, consisting of a number of variants (B_0) of gene sequences coding for the biomolecule, and

b) Division of the variant library into a number of compartments (W_0), which is at least by a factor of ten smaller than the number of variants in the variant library (B_0),
~~Whereas~~ where each compartment contains a partial library which contains $K_0=B_0/W_0$ variants,

c) Production of biomolecules in the compartments and testing of the biomolecules obtained in the single compartments for a specified ~~property (phenotype)~~ phenotype, whereas from the observed phenotype no direct conclusions on the genotype can be made,

d) Selection of at least one compartment, which contains biomolecules fulfilling the wanted properties,

e) Division of the partial library contained in the selected compartment into further compartments, and

f) n-fold repetition of the steps c) to e) until in every compartment maximally only one variant ($K_n<=1$) of the gene sequence coding for the biomolecule is contained.

2. (original) The method of claim 1, wherein the wanted property is a biocatalytic activity.

3. (currently amended) The method of claim 1 ~~or 2~~ , wherein in step c) also an amplification of the partial library takes place in the compartments up to an number of individuals $V_0(x)$ at the point in time x per compartment, whereas the number of individuals $V_0(x)$ divided by the number of clones per compartment K_0 gives the amplification factor $F_0(x)$ per clone.

4. (currently amended) The method of ~~one of the claims 1 to 3~~ claim 1, wherein in step e) the division is carried out under dilution of the partial library by means of factor $F_0(x)$, so that in a given volume every clone contained in the compartment is statistically present up to a number $X_0 < W_1$, this volume is divided up in a number of new compartments W_1, whereas the new number of clones per compartment amounts to $K_1 = X_0 * K_0 / W_1$.

5. (currently amended) The method of ~~one of the claims 1 to 4~~ claim 1, wherein the variant library contains 103 to 10^{15} variants of the gene sequence of the biomolecule.

6. (currently amended) The method of ~~one of the claims 1 to 5~~ claim 1, wherein in step b) the variant library is divided up in 10^1 to 10^4 compartments.

7. (currently amended) The method of ~~one of the claims 1 to 6~~ claim 1, wherein in step b) the variant library is transferred into an organism before division.

8. (original) The method of claim 7, wherein in step c) the culture of the organism after division is amplified to a number of organisms of 10^8 to 10^9 per compartment.

9. (currently amended) The method of claim 7 ~~or 8~~ , wherein the organisms also conduct the production of the biomolecules.

10. (currently amended) The method of ~~one of the claims 7 to 9~~ claim 7, wherein the partial libraries in the compartments are re-isolated from the organisms, and the production of the biomolecules is conducted by cell-free systems.

11. (currently amended) The method of ~~one of the claims 1 to 6~~ claim 1, wherein the amplification of the partial libraries and the production of the biomolecules is conducted by cell-free systems.

12. (currently amended) The method of ~~one of the claims 1 to 11~~ claim 1, wherein the variant library consists of DNA-plasmids, which contain the gene sequence coding for the biomolecule.

13. (currently amended) The method of ~~one of the claims 1 to 11~~ claim 1, wherein the variant library consists of linear nucleic acid molecules, which contain the gene sequence coding for the biomolecule.

14. (currently amended) The method of ~~one of the claims 1 to 13~~ claim 1, wherein the biomolecules are enzymes or ribozymes or other biomolecules, which exhibit a biocatalytic activity.

15. (currently amended) The method of ~~one of the claims 1 to 14~~ claim 1, wherein the test for a biocatalytic activity is conducted with a physical detection ~~methods, like preferentially the~~ method selected from the group consisting of UVIVIS-spectroscopy, ~~the~~ fluorescence spectroscopy ~~or the~~ and fluorescencecorrelation-spectroscopy.

REMARKS

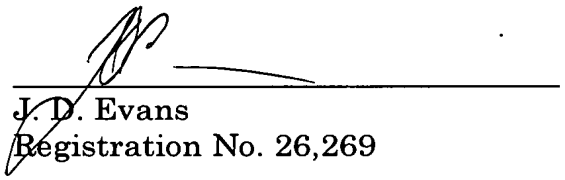
The foregoing amendments are submitted to enter the accompanying Substitute Sequence Listing into the application, to eliminate multiple claim dependencies, and to make clerical corrections to the claims.. No new matter is added by any of the amendments.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned at (202) 624-2845 would be appreciated since this should expedite the processing of the application.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket #102520.57766US).

Respectfully submitted,

May 4, 2007



J. D. Evans
Registration No. 26,269

CROWELL & MORING LLP
Intellectual Property Group
P.O. Box 14300
Washington, DC 20044-4300
Telephone No.: (202) 624-2500
Facsimile No.: (202) 628-8844
JDE:moi
Doc. # 3051879